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**REMARKS**

This response is intended as a full and complete response to the non-final Office Action mailed April 14, 2005. In the Office Action, the Examiner notes that claims 1-18 are pending of which claims 1, 3, 4, 9, 10, 12 and 14 are rejected, claims 2, 5-8, 11, 13, 15 and 16 are objected to, and claims 17 and 18 are subject to a restriction and/or election requirement. By this response, claim 12 has been canceled, all other claims remain unamended.

In view of both the amendments presented above and the following discussion, the Applicant submits that none of the claims now pending in the application are indefinite or obvious under the respective provisions of 35 U.S.C. §112 and 103.

It is to be understood that the Applicant, by amending the claims, does not acquiesce to the Examiner's characterizations of the art of record or to the Applicant's subject matter recited in the pending claims. Further, the Applicant is not acquiescing to the Examiner's statements as to the applicability of the art of record to the pending claims by filing the instant responsive amendments.

**ELECTION**

The Examiner finds that this application "contains claims directed to the following patentably distinct species of the claimed invention: Group I invention, claims 1-16 directed to a band filter including wherein the waveguides of each set are spaced at their connections to the first waveguide grating router such that optical signals having overlapping frequency ranges are propagated through adjacent waveguide and the waveguides of each set are spaced at their connection to the second waveguide grouting router; Group II invention, claims 17-18 directed to wherein the connecting waveguides have increased gaps between sets of waveguides at their connection to the second waveguide grating router. The Examiner has required the Applicant to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim finally is held to be allowable. Examiner found claims 1 and 17 to be distinct species. Further, the Examiner has required identification of the

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species that is elected." The Applicant elects the claims of Group I with traverse for the following reasons:

According to MPEP 808.02, "Where, however, the classification is the same and the field of search is the same and there is no clear indication of separate future classification and field of search, no reasons exist for dividing among related inventions." The Examiner asserts that the restriction is proper because each of the above grouped invention requires a separate search than that of other invention. However, a separate search should not be required. Both claims 1 and 17 are directed to a band filter comprising a first and second wavelength grating router and a plurality of waveguides connection the routers. All the limitations of claims 17-18 are substantially the same as the limitations of claims 1 and 4. Therefore, the field of search for claims 17-18 should be the same as for claims 1-16. The claims are different aspects of the same invention and the limitations are so similar that there are no clear indication of separate future classification and field of search. Thus, the restriction is improper and should be withdrawn.

Applicant respectfully traverses the Examiner's restriction requirement and the election of a species as stated above. As such, the Applicant respectfully requests reconsideration of the restriction requirement and requests that the requirement to the election of a species be withdrawn for at least the following reasons:

1. Claims 1-16 and claims 17-18 are directed to the same invention;
2. The limitations of claims 17-18 are substantially the same as the limitations found in claims 1-16; and
3. The examination of the entire Application can still be made "without serious burden to the Examiner." (See MPEP 803).

Therefore, requirement to elect a species is improper.

To the extent this restriction requirement and election of species are maintained by the Examiner, the Applicant reserves the right to subsequently file divisional applications in order to prosecute the inventions recited in any one or more of the non-elected groups of claims.

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Because of the above traversal, the Applicant respectfully submits that the Right of Petition under 37 CFR 1.144 has been preserved.

### **OBJECTIONS**

#### **IN THE DRAWINGS**

The Examiner has objected to the drawings under 37 C.F.R. 1.83(a). In particular, the Examiner finds that the limitation of claim 12 "segmentation fibers on inner slab-to-waveguide-array" means that reduces losses and other elements, namely, "the band filter 100", stated in at least page 4, the center (C) and long (L) of figure 2, stated in page 6, are missing and must be shown in the relevant Figures or those features be canceled from the claims.

In response to the Examiner's objection, the Applicants have canceled claim 12. Furthermore, as per telephone conversation with Examiner Kianni on May 10, 2005, it was explained that the band filter 100 of Fig. 1 is in the originally filed drawings. The Examiner agreed that label 100 is not missing and is shown in Fig. 1. In addition, it was explained to the Examiner that C and L are not reference characters. C and L are mere descriptions for the ITU spectral bands. C band ranges from 1530-1565 nm, and L band ranges 1565-1625 nm. Therefore, it was agreed that no drawing corrections are necessary in response to the office action.

### **ALLOWABLE SUBJECT MATTER**

Claims 2, 5-8, 11, 13, 15 and 16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The Applicant thanks the Examiner for indicating allowable subject matter, but the Applicant believes that independent claim 1, from which these claims depend, is allowable over the prior art of record for the reasons set forth below. Therefore, the Applicant respectfully requests that the objection to claims 2, 5-8, 11, 13, 15 and 16 be withdrawn.

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In any event, the Applicant expressly reserves the right to amend any one or more of claims 2, 5-8, 11, 13, 15 and 16 into independent form in a later response, if necessary or desired.

## **REJECTIONS**

### **35 U.S.C. §112**

#### **Claims 9 and 10**

The Examiner has rejected claim 9 and claim 10 which depends from claim 9 under 35 U.S.C. §112, ¶ 2, for, failing to particularly point out and distinctly claim the subject matter which the Applicant regards as the invention. The Applicant respectfully traverses the Examiner's rejection.

The Specification clearly support and explains claims 9 and 10. As stated on page 4, line 28 to page 5, line 4 of the Specification:

Referring back to FIG. 1, the plurality of connecting waveguides are illustratively divided into three sets of waveguides 115<sub>1</sub>, 115<sub>2</sub> and 115<sub>3</sub>. Each of the sets 115<sub>1</sub>, 115<sub>2</sub> and 115<sub>3</sub> of the plurality of connecting waveguides 115 of the band filter 100 have substantially equal path lengths within a wavelength band. More specifically, a band filter in accordance with the present invention comprises a number of individual sets of connecting waveguides at least equal to the number of bands that an input optical spectrum is to be separated into by the band filter. (emphasis added).

Claims 9 and 10 are claiming that the number of sets of waveguides and the number of bands that the input signal is separated into by the band filter are equal. As stated in the specification, the band filter separates the input signal into a number of bands. That number could be the same as the number of sets of waveguides. Because claims 9 and 10 clearly point out and distinctly claim the subject matter which the applicant regards as at least one aspect of the invention, this rejection should be withdrawn.

### **35 U.S.C. §103**

#### **Claims 1 and 3-4**

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The Examiner has rejected claims 1 and 3-4 under 35 U.S.C. §102(e)/103(a) as being obvious over Doerr et al. (US 6240188, hereinafter "Doerr"). The Applicant respectfully traverses the Examiner's rejection.

The Applicant notes that under Subtitle H of the Inventor Protection Act of 1999, for patent applications filed after November 29, 1999, 35 U.S.C. § 103(a) is amended such that subject matter which would qualify as prior art under 35 U.S.C. § 103 via 35 U.S.C. § 102(e) is now disqualified as prior art, if the subject matter of the claimed invention and the prior art are commonly owned.

Under these provisions, Doerr, as a 102(e) reference, is excluded prior art under 35 U.S.C. § 103 with respect to the Applicant's inventions. Doerr is assigned to Lucent Technologies Inc., of Murray Hill, New Jersey, as is the subject application. In addition, the Applicant's invention was, at the time the invention was made, subject to an obligation of assignment to Lucent Technologies Inc., of Murray Hill, New Jersey.

As such, the Applicant submits that the basis for the Examiner's rejection of claim 1 and 3-4 relying on Doerr is improper.

In addition, even if the Doerr reference does not qualify under subsections (e), (f) or (g) of section 102, this rejection is still improper. According to 2143.03: All Claim Limitations Must Be Taught or Suggested:

To establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). "All words in a claim must be considered in judging the patentability of that claim against the prior art." In re Wilson, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970). If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious. In re Fine, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988).

As stated by the examiner, "Doerr does not specifically teach regarding the above spaced waveguide sets wherein optical signals having overlapping frequency ranges are propagated through adjacent waveguides." Examiner then asserts that it is obvious/well known that waveguide grating routers would pass and filter certain frequency ranges through adjacently spaced waveguides as

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desired. It is not obvious to space the waveguide sets in the claimed manner. The prior art is silent on the spacing as claimed. The reference does not teach or suggest spaced waveguide sets wherein optical signals having overlapping frequency ranges are propagated through adjacent waveguides. (emphasis added). Examiner failed to show teachings or suggestions either in the reference or knowledge generally available to one of ordinary person skilled in the art the desirability of spaced waveguide sets wherein optical signals having overlapping frequency ranges are propagated through adjacent waveguides. In sum, the reference still does not teach or suggest a band filter wherein the waveguides of each set are spaced at their connections to the first waveguide grating router such that optical signals having overlapping frequency ranges are propagated through adjacent waveguides and the waveguides of each set are spaced at their connection to the second waveguide grating router such that optical signals with predetermined optical frequency ranges are routed to selected, respective output ports. Thus, the Examiner failed to establish a prima facie case of obviousness.

Therefore the Applicant submits that claims 1 and 3-4 as it now stands is not obvious in view of Doerr and fully satisfies the requirements of 35 U.S.C. § 103 and is patentable thereunder. Therefore, the Applicant respectfully requests that the Examiner's rejection be withdrawn.

**Claims 1, 3-4, 12 and 14**

The Examiner has rejected claims 1, 3-4, 12 and 14 under 35 U.S.C. §103(a) as being unpatentable over Hansen et al. (US 2002/0063928, hereinafter "Hansen"). The Applicant has canceled claim 12 and respectfully traverses the rejection for claims 1, 3-4 and 14.

The Hansen reference fails to teach or suggest the Applicant's invention as a whole. Specifically, the reference fails to teach or suggest all claim limitations. For example, the reference does not teach or suggest a band filter wherein the waveguides of each set are spaced at their connections to the first waveguide grating router such that optical signals having overlapping frequency ranges are propagated through adjacent waveguides and the waveguides of

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each set are spaced at their connection to the second waveguide grating router such that optical signals with predetermined optical frequency ranges are routed to selected, respective output ports.

The Hansen reference discloses a method and apparatus for filtering data encoded signals using an optical multiplexer. As stated by the Examiner, "Hansen does not specifically teach regarding the above spaced waveguide sets wherein optical signals having overlapping frequency ranges are propagated through adjacent waveguides."

The Hansen reference fails to teach or suggest the Applicant's claimed invention as a whole. Examiner asserts that it is obvious/well known that waveguide grating routers would pass and filter certain frequency ranges through adjacently spaced waveguides as desired. It is not obvious to space the waveguide sets in the claimed manner. The prior art is silent on the spacing as claimed. The reference does not teach or suggest spaced waveguide sets wherein optical signals having overlapping frequency ranges are propagated through adjacent waveguides. (emphasis added). Examiner failed to show teachings or suggestions either in the reference or knowledge generally available to one of ordinary person skilled in the art the desirability of spaced waveguide sets wherein optical signals having overlapping frequency ranges are propagated through adjacent waveguides. In sum, the reference still does not teach or suggest a band filter wherein the waveguides of each set are spaced at their connections to the first waveguide grating router such that optical signals having overlapping frequency ranges are propagated through adjacent waveguides and the waveguides of each set are spaced at their connection to the second waveguide grating router such that optical signals with predetermined optical frequency ranges are routed to selected, respective output ports. Thus, the Examiner failed to establish a prima facie case of obviousness.

As such, the Applicant submits that independent claim 1 is not obvious and fully satisfies the requirements of 35 U.S.C. §103 and is patentable thereunder. Therefore, the Applicant respectfully requests that the Examiner's rejection be withdrawn. Furthermore, claims 3-4 and 14 depend directly or

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indirectly from independent claim 1 and recite additional limitations thereof. As such, and at least for the same reasons as discussed above, the Applicant submits that dependent claims 3-4 and 14 are also not obvious and fully satisfy the requirements of 35 U.S.C. §103 and are patentable thereunder. Therefore, the Applicant respectfully requests that the Examiner's rejection be withdrawn.

### **THE SECONDARY REFERENCES**

The secondary references made of record are noted. However, it is believed that the secondary references are no more pertinent to the Applicant's disclosure than the primary references cited in the office action. Therefore, the Applicant believes that a detailed discussion of the secondary references is not necessary for a full and complete response to this office action.

### **CONCLUSION**

Thus, the Applicants submit that none of the claims presently in the application are indefinite or obvious under the respective provisions of 35 U.S.C. §112 and §103. Accordingly, both reconsideration of this application and its swift passage to issue are earnestly solicited.

If, however, the Examiner believes that there are any unresolved issues requiring adverse final action in any of the claims now pending in the application, it is requested that the Examiner telephone Eamon J. Wall at (732) 530-9404 so that appropriate arrangements can be made for resolving such issues as expeditiously as possible.

Respectfully submitted,

Dated: 7/13/05

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